Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)

2. (Currently amended) The modified *Trichoderma reesei* xylanase II of claim [1] 72, wherein the modified *Trichoderma reesei* xylanase II exhibits improved alkalophilicity~~, expression efficiency, or a combination thereof,~~ in comparison to a corresponding native xylanase.

3-47. (Canceled)

48. (Currently amended) A method of manufacturing pulp, comprising treating the pulp with the modified *Trichoderma reesei* xylanase II of claim [1] 72.

49-60. (Canceled)

61. (Currently amended) The modified *Trichoderma reesei* xylanase II of claim [1] 72 having a maximum effective temperature (MET) between about 69°C and about 84°C.

62. (Previously Presented) The modified *Trichoderma reesei* xylanase II of claim 61, wherein the MET is between about 70° and about 84°C.

63. (Currently amended) The modified *Trichoderma reesei* xylanase II of claim [1] 72 having a maximum effective pH (MEP) between about pH 5.8 to about pH 8.4.

64. (Previously Presented) The modified *Trichoderma reesei* xylanase II of claim 63, wherein the MEP is between about pH 6.0 and about pH 8.0.

65. (Previously Presented) The modified *Trichoderma reesei* xylanase II of claim 61, wherein the modified xylanase is further characterized as having a maximum effective pH (MEP) between about pH 5.8 and about pH 7.6.

66. (Previously Presented) The modified *Trichoderma reesei* xylanase II of claim 62, wherein the modified xylanase is further characterized as having a maximum effective pH (MEP) between about pH 6.5 and about pH 7.4.

67-71. (Cancelled)

72. (New) A modified *Trichoderma reesei* xylanase II that exhibits activity on a xylan substrate, improved thermophilicity in comparison to a corresponding native *Trichoderma reesei* xylanase II of SEQ ID NO: 16, and comprising a modification at position 116, 118, 144, 161, or a combinaton thereof, the modified *Trichoderma reesei* xylanase II selected from the group consisting of:

- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-Y27M-N29L-S75A-L105H-Q125A-I129E-H144R;
- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-Y27M-N29L-S75A-L105H-Q125A-I129E-H144R-Q161R;
- a modified *Trichoderma reesei* xylanase II comprising TrX-D116G;
- a modified *Trichoderma reesei* xylanase II comprising TrX-Y118C;
- a modified *Trichoderma reesei* xylanase II comprising TrX-H144R;
- a modified *Trichoderma reesei* xylanase II comprising TrX-H144R-Q161R;
- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-Y27M-N29L-S75A-L105H-D116G-Q125A-I129E-H144R;
- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-Y27M-N29L-S75A-L105H-Y118C-Q125A-I129E-H144R;
- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-N11D-Y27M-N29L-S75A-L105H-Q125A-I129E-H144R-Q161R;
- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-N11D-Y27M-N29L-S75A-L105H-D116G-Q125A-I129E-H144R-Q161R;

- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-N11D-Y27M-N29L-S75A-L105H-Y118C-Q125A-I129E-H144R-Q161R; and

- a modified *Trichoderma reesei* xylanase II comprising TrX-N10H-N11D-Y27M-N29L-S75A-L105H-D116G-Y118C-Q125A-I129E-H144R-Q161R.